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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/675,860 | 09/29/2000 | MARTIN M. BARRERA | NOVE10001000 | 9366 |

22891 7590 04/18/2002

DELIO & PETERSON
121 WHITNEY AVENUE
NEW HAVEN, CT 06510

EXAMINER

KIM, CHRISTOPHER S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3752

DATE MAILED: 04/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,860

Applicant(s)

BARRERA ET AL.

Examiner

Christopher S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention I in Paper No. 8 is acknowledged. The traversal is on the ground(s) that Inventions I and II are not directed to an independent and distinct matter because a search of Invention I would require a search of Invention II. This is not found persuasive because applicant's assertion that a search of Invention I would require a search of Invention II is unsupported by facts. The restriction requirement fully complies with 35 U.S.C. 121 as evidenced by the restriction requirement mailed on February 1, 2002.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 22 and 23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

Drawings

3. The specification refers to figure 6 but no such figure can be found in the drawings. The drawings contain 5 sheets with figures 1, 2, 3A, 3B, 4 and 5. This appears to be in agreement with applicant's transmittal form and data sheet which specify 5 drawing sheets.

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4. Claim 11 recites "a heater". It appears that only the figure labeled "PRIOR ART" shows a heater 34. No heater is shown in applicant's invention, figures 2-5. Therefore, the drawings do not appear to comply with 37 CFR 1.83(a). Applicant is required to comment.

Claim Objections

5. Claim 8 recites "said second pressure is an elevated and constant pressure above vacuum conditions". The specification recites, on page 9, lines 2-4, "fluids to be injected into the throat 44 at an elevated and constant pressure above vacuum conditions, and below the maximum gas (fluid) pressure, P_1 ".

Is applicant claiming there is not suction across inlet ports 46, 48, i.e., no Bernoulli effect?

Is applicant merely claiming that the second pressure P_2 is greater than 0 psia?

Is applicant merely stating in the specification that liquid 1 and liquid 2 are supplied to inlet ports 46 and 48 by a pressure greater than 0 psia upstream of inlet ports 46 and 48? In other words, there is positive pressure driving liquid 1 and liquid 2 to inlet ports 46 and 48.

Applicant is required to comment.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1 and 13 recite "at least one aperture" in line 9 and "at least one of said plurality of fluids" in line 10. The disclosure does not enable an embodiment having one aperture and a plurality of fluids.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 13 recite an "apparatus for delivering a plurality of fluids to a chemical vapor deposition chamber, having a cavity comprising:". It is uncertain whether applicant is claiming an apparatus comprising or a cavity comprising.

Regarding claims 5 and 17, the recitations "some" and "others" renders the claim indefinite because it is uncertain what numbers are encompassed by the terms.

Claim 6 recites "said throat region further comprises two or more apertures". Is this in addition to the "at least one aperture" recited in claim 1? It is uncertain how many apertures are being claimed.

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Claim 18 recites "said throat region further comprises two or more apertures". Is this in addition to the "at least one aperture" recited in claim 13? It is uncertain how many apertures are being claimed.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 3-10, 13, 15-21 (as best understood) are rejected under 35 U.S.C. 102(b) as being anticipated by Gwyn (4,397,422).

Gwyn discloses an apparatus comprising: an inlet 17; a throat region 19; at least one aperture 20; an exit nozzle 15.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2, 11, 12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gwyn (4,397,422).

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With respect to claims 2 and 14, Gwyn discloses the limitations of the claimed invention with the exception of the angle being forty to sixty degrees. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided an angle of forty to sixty degrees for optimization dependent of application criteria, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 11, applicant discloses a heater as prior art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided a heater to the device of Gwyn to heat the paint exiting the exit nozzle.

With respect to claim 12, Gwyn discloses the limitations of the claimed invention with the exception of the angle being twenty to forty degrees. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided an angle of twenty to forty degrees for optimization dependent of application criteria, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Munk et al. discloses a nozzle for adding a fluid into a supersonic

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flow. Kemp; Fox et al.; McNair et al.; Young; Walz et al. and Norris et al. disclose mixing nozzles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (703) 308-8336. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry C. Yuen can be reached on (703) 308-1946. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7766 for regular communications and (703) 308-7766 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



Christopher S. Kim
Examiner
Art Unit 3752

CK
April 12, 2002